ON THF STUDY OF THE AGARICINI.

BY A. P. MORGAN.

The wonderfully increasing interest in the study of Fungi is manifest by the monthly publication in all our botanical periodicals, of discoveries of new species and observations on their habits and growth. A vast field of labor, not less extensive than that afforded by the Flowering Plants, has just been entered upon by a multitude of workers possessing every facility for exploration, and observation, and favorably distributed in all parts of this great country. The promise is good that in the next decade we may present a true and accurate account of our mycologic flora in systematic shape.

I wish to confine my remarks in this paper to a much neglected, and, perhaps, much feared portion of this great field of Fungi, namely, the Agaricini of the Hymenomycetes. These rank in order as the highest of the Fungi, and all are of conspicuous size; their number can scarcely be less than in Europe, and the native species must constitute more than a third part of the. whole. The single genus Agaricus comprises in Europe more than 1,200 species; these, with the added species of other genera belonging to the order, make a total of over 1,800 species. Our country is not less prolific of forms, and when the work is fairly done we will count well on to 2,000 species of the Agaricini. The genus Agaricus is the difficult one; the others are readily separated from it. Lactarius exudes a milky juice when broken; Coprinus dissolves into an inky fluid; Marasmius is tough and subcoriaceous, etc., etc.

I am in constant receipt of specimens of Agarics from friends and correspondents, and yet in most cases I am aware that I am able to make but a poor return for the trouble and expense they have incurred. To be sure a few species can be determined, as we may recognize a flowering plant, the Amanitas, the Lepiotas, and many of the subcoriaceous Agaricini, for example; but the great multitude of fleshy, putrescent species must have something else accompanying the specimen. And right here I wish to quote from Dr. Cooke's Grevillea, Vol. 12, p. 14: "Unfortunately, collectors and correspondents will not be presuaded to send drawings and details with their fleshy fungi, although for many years the Rev. M. J. Berkeley was continually urging it upon them. On account of this, not more than one-tenth of the Agaricini and Boleti sent here can be accurately determined."

The least that can be expected with an Agaric is to catch its spores, and ascertain their color, then fold the paper containing them and inclose it with the dried specimen; this assigns it at once to one of the five series of suborders into which the genus is divided. If the specimen in its fresh and perfect state can be sketched in colors, so much the better.

If a sketch cannot be made, then next in importance to the color of the spores is the color of the specimen, its form, size, etc. In another paper I will give a synopsis for the study and description of an Agaric.

The aids to the study of the Agaricini are, as in the other classes, cheifly foreign, while the descriptions of the native species are scattered in various publication, some of them inaccessible to the student; so that in reference to many species he is obliged to depend upon the friendly aid of some specialist. The text-book covering the most species is the Hymenomycetes Europæi of Fries, written in Latin. Cook's Handbook of British Fungi is an excellent treatise in English and is now in course of republication. The reports of the New York State Museum of Natural History from the twenty-third to the twenty-fourth inclusive, contains the most important publications on Fungi that have yet been made in this country; they are the work of the most accomplished American mycologist, Prof. Chas. H. Peck. The Illustrations of the British Fungi by Dr. M. C. Cooke are invaluable in the study of the Agaricini; they are now in course of publication, and twenty-eight parts have been issued, not yet completing the genus Agaricus.

NEW FUNGI.

BY J. B. ELLIS AND B. M. EVERHART.

PEZIZA DINEMASPORIOIDES, E. & E.—Attached by a central point, black, bristly, minute, consisting of a basal membrane of cellulose-fibrose structure, with a subfimbriate margin and subtended by long(300—400 *u*), black, spreading, bristle-like hairs, the whole much resembling a minute *Dinemasporium*. Asci 90—100 x 8—10 *u*, gradually narrowed to the base. Paraphyses filiform; sporidia also filiform, multinucleate, yellowish or nearly hyaline, $\frac{1}{2}$—$\frac{2}{3}$ as long as the asci.

On basal sheaths of dead *Andropogon*, Newfield, N. J., Oct. 1884.

HYPOREA DIGITATA, E. & E.—Stroma yellowish, digitate, radiating from a central point and dividing into numerous (2mm. in diam.), semi-cylindrical, finger-like lobes closely appressed to and surrounding the branch and extending longitudinally about 5 cm. Perithecia numerous, globose, small, with hyaline contents and black, slightly projecting ostiola. Asci cylindrical, 80—90 *u* long. Sporidia crowded or overlapping, oblong, subhyaline, 1-septate, granular, slightly curved, 20—26 x 6—8 *u*.

On a dead limb, at the "Notch" in the White Mountains, N. H, Sept. 1884. Miss S. Minns.